

WHAT IS CLAIMED IS:

1. A method of fabricating a cellular cushion, said method comprising:

injecting material into a mold in an injection molding process to form a cushion first layer that includes a plurality of hollow cells that extend outward from the base and are each coupled together in flow communication;

coupling a second layer to the first layer; and

coupling an injection stem in flow communication to the plurality of hollow cells to enable an operating pressure within the cells to be changed.

2. A method in accordance with Claim 1 wherein injecting material into a mold in an injection molding process further comprises injection molding material into a mold to form a plurality of hollow cells that are each defined by a wall having a substantially constant thickness across the first layer.

3. A method in accordance with Claim 1 wherein injecting material into a mold in an injection molding process further comprises forming a plurality of cells that are each adapted to expand outwardly towards each other when an operating pressure within the cells is increased.

4. A method in accordance with Claim 1 further comprising coupling a third layer to at least one of the first layer and the second layer wherein at least one of the second layer and the first layer includes a plurality of fluid control devices that are coupled together in flow communication, and wherein each fluid control device is positioned between adjacent hollow cells for selectively controlling flow communication independently to each of the plurality of hollow cells.

5. A method in accordance with Claim 4 wherein coupling a third layer to at least one of the first layer and the second layer further comprises coupling the third layer to the first layer such that the first layer is between the second and third layers.

6. A method in accordance with Claim 4 wherein coupling a third layer to at least one of the first layer and the second layer further comprises coupling the third layer to the second layer such that the second layer is between the first and third layers.

7. A method in accordance with Claim 4 wherein coupling a third layer to at least one of the first layer and the second layer further comprises:

inserting the plurality of hollow cells through a plurality of openings formed within the third layer, such that each respective hollow cell extends through a respective third layer opening; and

coupling the third layer to the first layer such that the first layer is between the second and third layers.

8. A method in accordance with Claim 4 further comprising coupling an inflation stem in flow communication with the plurality of fluid control devices to enable an operating pressure within the plurality of fluid control devices to be changed.

9. A method in accordance with Claim 1 wherein coupling a second layer to the first layer further comprises coupling the second layer to the first layer using at least one of an RF welding process, a lamination process, and an adhesive process.

10. A method in accordance with Claim 1 wherein injecting material into a mold in an injection molding process further comprises injecting an elastomer material into a mold to form the cellular cushion.

11. A method in accordance with Claim 1 wherein injecting material into a mold in an injection molding process to form a cushion first layer further comprises injecting material into the mold to integrally form a valve stem with the first layer.

12. A method for fabricating a flexible cushion, said method comprising:

forming a plurality of hollow cells with an injection molding process;

coupling the plurality of cells to a flexible base; and

coupling a sealing layer to the flexible base such that the plurality of hollow cells are coupled together in flow communication with each other.

13. A method in accordance with Claim 12 wherein coupling a sealing layer to the flexible base further comprises coupling the sealing layer to the base such that a plurality of fluid control devices defined by at least one of the base and the sealing layer are each positioned between adjacent hollow cells.

14. A method in accordance with Claim 13 wherein coupling the sealing layer to the base such that a plurality of fluid control devices defined by at least one of the base and the sealing layer further comprises coupling the sealing layer to the base such that the plurality of fluid control devices are coupled together in flow communication.

15. A method in accordance with Claim 13 further comprising coupling an inflation stem to the plurality of fluid control devices to enable the fluid control devices to selectively control flow communication independently to each of the plurality of hollow cells.

16. A method in accordance with Claim 13 further comprising coupling an inflation stem to the plurality of fluid control devices to enable an operating pressure within the plurality of fluid control devices to be changed to facilitate increasing a stability to a user seated on said cellular cushion.

17. A method in accordance with Claim 13 further comprising coupling an inflation stem to the plurality of fluid control devices to enable an operating pressure within the plurality of fluid control devices to be changed to facilitate reducing sitting fatigue of a user seated on said cellular cushion.

18. A method in accordance with Claim 12 wherein coupling a sealing layer to the flexible base further comprises coupling the sealing layer to the base such that a plurality of fluid control devices defined between the base and the sealing layer facilitate selectively controlling flow communication independently to each of the plurality of hollow cells.

19. A method in accordance with Claim 12 wherein coupling a sealing layer to the flexible base further comprises coupling the sealing layer to the base such that the plurality of hollow cells each extend through a respective opening formed within the sealing layer.

20. A method in accordance with Claim 12 wherein coupling a sealing layer to the flexible base further comprises coupling the sealing layer to the flexible base using at least one of an RF welding process, a lamination process, a silk screening process, an adhesive process, and a printing process.

21. A method in accordance with Claim 12 further comprising coupling an inflation stem in flow communication to the plurality of hollow cells for changing an operating pressure within the plurality of hollow cells.

22. A method in accordance with Claim 12 wherein forming a plurality of hollow cells with an injection molding process further comprises forming the plurality of hollow cells such that each cell is defined by a sidewall having a substantially constant thickness across the base.

23. A method in accordance with Claim 12 further comprising forming a valve stem integrally with at least one hollow cell.

24. A method for fabricating an inflatable cushion, said method comprising;

forming a flexible base using an injection molding process such that a plurality of hollow cells each extend outwardly from the base and are coupled together in flow communication; and

coupling a second layer to the base such that a plurality of fluid control devices defined by at least one of the base and the sealing layer are each positioned between adjacent hollow cells to selectively control flow communication independently to each of the plurality of hollow cells.

25. A method in accordance with Claim 24 further comprising coupling an inflation stem in flow communication to the plurality of hollow cells to enable the plurality of hollow cells to be pressurized.

26. A method in accordance with Claim 25 further comprising coupling an inflation stem in flow communication to the plurality of fluid control devices to enable the plurality of fluid control devices to control flow communication independently to each of the plurality of hollow cells within the cushion.

27. A method in accordance with Claim 26 wherein coupling a sealing layer to the base further comprises coupling the second layer to the base such that the plurality of hollow cells are coupled together in flow communication by a plurality of passageways defined by at least one of the base and the second layer.

28. A method in accordance with Claim 27 wherein coupling the second layer to the base such that the plurality of hollow cells are coupled together in flow

communication by a plurality of passageways defined by at least one of the base and the second layer further comprises coupling the second layer to the base such that a release agent is contained within each of the plurality of passageways.

29. A method in accordance with Claim 24 further comprising coupling an outer layer to at least one of the base and the second layer.

30. A method in accordance with Claim 29 wherein coupling a third layer to at least one of the base and the second layer further comprises coupling the third layer to at least one of the base and the second layer such that the second layer is between the base and the third layer.

31. A method in accordance with Claim 29 wherein coupling a third layer to at least one of the base and the second layer further comprises coupling the third layer to at least one of the base and the second layer such that the base is between the second and third layers.

32. A method in accordance with Claim 29 further comprising increasing an operating pressure within the plurality of fluid control devices to facilitate increasing the stability of the cushion to a seated user.

33. A method in accordance with Claim 29 further comprising increasing an operating pressure within the plurality of fluid control devices to facilitate reducing sitting fatigue of a seated user.